

Amendments to the Claims

1. (currently amended) ~~Method~~ A method for the manufacture of a high temperature superconducting layer on a substrate (~~1a, 1b~~) comprising the following steps:
 - a. deposition of an $\text{RBa}_2\text{Cu}_3\text{O}_7$ -layer (~~2~~) onto the substrate (~~1a, 1b~~) with a low growth rate less than 1 nm/s, wherein R represents yttrium, an element of the group of rare-earth elements (atomic number 57-71) or mixtures of two or more of these elements;
 - b. deposition of an $\text{XBa}_2\text{Cu}_3\text{O}_7$ -layer (~~3~~) onto the $\text{RBa}_2\text{Cu}_3\text{O}_7$ -layer (~~2~~) with a high growth rate greater than 1 nm/s, wherein X represents yttrium, an element of the group of rare-earth elements (atomic number 57-71) or mixtures of two or more of these elements.
2. (currently amended) ~~Method~~ A method according to claim 1, ~~wherein the low growth rate is $< 1 \text{ nm/s}$ and wherein the high growth rate is $> 1 \text{ nm/s}$, preferably $>$ greater than 2 nm/s.~~
3. (currently amended) ~~Method~~ A method according to claim 1 ~~or 2~~, wherein the $\text{RBa}_2\text{Cu}_3\text{O}_7$ -layer (~~2~~) comprises a thickness of [~~<~~] less than 500 nm, ~~preferably $<$ 100 nm.~~
4. (currently amended) ~~Method~~ A method according to claim 1, wherein the $\text{RBa}_2\text{Cu}_3\text{O}_7$ -layer (~~2~~) has a thickness of [~~>~~] greater than 5 nm.
5. (currently amended) ~~Method~~ A method according to claim 1, wherein the $\text{XBa}_2\text{Cu}_3\text{O}_7$ -layer (~~3~~) has a thickness of [~~>~~] greater than 1 μm .
6. (currently amended) ~~Method~~ A method according to claim 1, wherein the $\text{RBa}_2\text{Cu}_3\text{O}_7$ -layer (~~2~~) is deposited onto an at least biaxially textured substrate (~~1a~~) or a substrate with an at least biaxially textured buffer layer (~~1b~~).

7. (currently amended) ~~Method~~ A method according to claim 1, wherein the $\text{XBa}_2\text{Cu}_3\text{O}_{7-x}$ -layer (~~3~~) is deposited as a precursor layer, comprising the metal components of the high temperature superconducting layer.

8. (currently amended) ~~Method~~ A method according to claim 7, wherein the precursor layer is transformed in a further method step by a temperature treatment with a high transformation rate into a superconducting $\text{XBa}_2\text{Cu}_3\text{O}_{7-x}$ -layer (~~3~~).

9. (currently amended) ~~Method~~ A method according to claim 8, wherein the transformation rate is [\geq] greater than 2 nm/s.

10. (currently amended) ~~Method~~ A method according to claim 1, wherein R represents a rare-earth element of the group comprising ~~with a great ion radius~~ (La, Pr, Nd, Sm, Eu, and Gd, [?]) or compounds comprising to at least 50% of one or more of these elements in mixtures with other rare-earth elements.

11. (cancelled)